Ch. 11 Developing Whole-Number Place-Value Concepts Jamee Coode

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| **Representative Tn State Curriculum Standards**  *First Grade-*  GLE:  0106.2.1 Understand and use number notation and place value to 100.  Checks for Understanding  0106.2.6 Recognize the place value of numbers.  *Second Grade-*  GLE:  0206.2.1 Understand and use place value concepts to 1000.  0206.2.2 Understand and use the base-ten numeration system.  Checks for Understanding  0206.2.4 Recognize that place-value notation represents the sum of multiples of powers of ten. | |
| [http://ts1.mm.bing.net/images/thumbnail.aspx?q=1521980934196&id=8812767cbfc54cb39611bafd6c4fdb38&url=http%3a%2f%2fcdn4.fishpond.co.nz%2f9781570911965-crop-325x325.jpg](http://www.bing.com/images/search?q=a+place+for+zero&view=detail&sid=2EE722A1D64D4C9982629C403C762793&id=8C9C8FE056E6B7EC70085351593B0F4D2CA3CAB8&first=0&FORM=IDFRIR)  **Time:** 10 minutes | Used to show that 1 rod, stick, or any group of ten things linked together is the same as 10 single items.   * Have base ten blocks in singles & rods on tables. * As the story is being read have the students show the numbers mentioned with their single cubes. * When the story talks about 9+1 have the students put ten single cubes in a group and put it next to a rod to show that a rod is the same as ten single cubes. * Make sure the students understand that even though the rod and ten single cubes may look different they are actually the same amount. * The rod holds the ones place as zero just like the zero in the book holds the ones place as zero ones. |

**Virtual Manipulatives Time: 10 minutes**

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| *I Know That*  <http://www.iknowthat.com/com>  **Arithmetic Workshop-Place Values**  Objective: The students get to play with the base ten blocks freely. There is no particular space for any of them. They can put together pieces to create bigger ones and they can also break apart pieces to see how they are put together. This manipulative also allows the students to perform addition, subtraction, multiplication, and division with the blocks. I also like that this site allows the students to print their work so they can keep a visual of what was learned and practiced.  *Base Ten Blocks*  <http://nlvm.usu.edu/en/nav/frames_asid_152_g_1_t_1.html>  Objective: The students can manipulate base ten bocks in ones, tens, hundreds and thousands. They can use only ones and tens or they can add in hundreds and/or thousands. They can break apart larger pieces to show how many of the next size down is needed to make it. They can also put together groups of one column to move it up to the next. Students can also be given a number and they can create that number using the different blocks. |
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**Activities from the textbook**

**Materials needed:** Bags with assorted counters, recording sheets, jar with large amount of beans, small containers, 1 large container, page of riddles

1. 11.2 Groups Of 10 p. 193; 4 minutes
2. Topic: Grouping in Tens and Ones
3. 11.10 Tens, Ones, and Fingers p. 198; 4 minutes
4. Topic: Two-Digit Number Names
5. 11.4 Too Many Tens p. 195; 4 minutes  
    a. Grouping Tens to Make 100
6. 11.7 Base-Ten Riddles p. 196; 4 minutes
7. Topic: Incorporating Oral Language with Equivalent Representations

**Additional Activities:**

**Activity 1: Number Necklace; 6 minutes**

**Materials:** Colored pasta (multiple colors) and string/yarn

Each student will pick a number from 11-36. They will then thread the pasta onto the yarn making their number. They must group with the most tens they can make. Each group of ten will be a different color pasta. If they have to show ones they will make those a different color from the tens.

**Activity 2: I have, Who Has Game; 3 minutes**

**Materials:** Game cards

Each student will get a card with a number represented by base-ten blocks. The teacher will tell the students she is looking for the 72 because that is the first card. The student who has base blocks that equal 72 on their card will stand and ask their “who has” question on the card. Game continues this way until you reach the card that says stop with me.

**References for Additional Activities:**

**Activity1**-I used Dr. Suters’ bracelet activity and revised it to be a necklace & to use place value.

Colored Pasta <http://www.makeandtakes.com/coloring-pasta-making-necklaces>

**Activity2**-Mathwire.com <http://www.mathwire.com/whohas/whohas.html>

**Lesson Plan**

Place Value

<http://www.lessonplanspage.com/mathgroupingplacevaluevarobjects12-htm/>

Students will learn the value of having groups of ten as opposed to single items. The teacher will use the overhead projector showing the students a particular number of peppers. After placing the peppers on the projector the teacher will turn the light on for about four seconds than ask the students how many peppers they saw. A good number to start with is 1. Next the teacher will place a higher number of peppers, like 8, on the projector. Again he/she will ask the students how many peppers. Next the teacher will place the 8 peppers in a line of 5 and a line of 3 underneath and again show the students. The idea behind this is to see if it makes it easier to count quickly if the items are in a particular order. Eventually the teacher will move up to ten so they can use a ten stick showing the students that counting by tens is much easier and quicker than simply counting by ones every time. The students are then asked to create numbers with beans in the same way the teacher used the peppers. The next day the students are using a larger number of beans and a place value mat. They grab a handful of beans and count them. They then will use their place value mat while the teacher reminds them how they used a ten stick for every ten single beans. Students then are able to see that if they count by tens and ones they will get the same number of beans as if they counted by ones.